8-16-02

Nuclear Power Business Unit
DOCUMENT REVIEW AND APPROVAL

*Note: Refer to NP 1.1.3 for requirements.*



## I - INITIATION

Doc Number PBF-1584 Unit PB0 Usage Level NA Proposed Rev No 10

Title DESIGN INPUT CHECKLIST Classification NA

☒ Revision ☐ Cancellation ☐ New Document ☐ Other (e g , periodic review, admin hold) _____

List Temporary Changes/Feedbacks Incorporated: N/A

Description of Alteration/Reason (If necessary, continue description of changes on PBF-0026c and attach.)

See attached PBF-0026c

List other documents required to be effective concurrently with the revision (e g , other procedures, forms, drawings, etc.):

None

Document Preparer (print/sign) Michael Rosseau / Michael Rosseau Date 08/12/2002

Indicates draft prepared according to NP1.1.3, any commitments/bases changes have been documented and resolved.

## II - TECHNICAL REVIEW

**(Cannot be the Preparer or Approval Authority)**

Technical Reviewer (print/sign) Michael L. Miller / Michael L. Miller Date 8/12/02

Indicates draft technically correct, consistent with references/bases/upper tier requirements, requirements of NP 1.1.3 completed

## III – DOCUMENT OWNER REVIEW

Required Reviewers/Organizations: N/A

Validation Required? ☒ NO ☐ YES ☐ WAIVED (Group Head Approval and Reason Required)

Reason Validation Waived: N/A

Continue on PBF-0026c if necessary.

Validation Waiver Approval: _____

Group Head Signature

Changes pre-screened according to NP 5.1.8? ☐ NO ☒ YES (Provide documentation according to NP 5.1.8)

Screening completed according to NP 5.1.8? ☒ NA ☐ YES (Attach copy) Safety evaluation required? ☒ NO ☐ YES

Training or briefing required? ☒ NO ☐ YES If YES, training or briefing required before issue? ☐ NO ☐ YES

Training assistance desired? ☒ NO ☐ YES If YES, Training Coordinator contacted/date: _____ /

☒ QR/MSS Review NOT Required (Admin or NNSR only) ☐ QR Review Required ☐ MSS Review Required (reference NP 1.6 5)

Document Owner (print/sign) Michael Rosseau / Michael Rosseau Date 8/14/02

Indicates document is technically correct, can be performed as written, does not adversely affect personnel or nuclear safety, appropriate reviews have been performed (i.e , technical, cross-disciplinary, validation and 50.59/72.48), comments have been resolved and incorporated as appropriate, affected documents/ training/briefing have been identified and word processing completed. Document Control notified if emergent issuance required (e g , may be less than 2 days for procedure issuance)

## IV - APPROVAL

**(The Preparer, Qualified Reviewer (QR), and Approval Authority shall be different individuals)**

QR/MSS (print/sign) N/A / Date _____

Indicates 50.59/72 48 applicability assessed, any necessary screenings/evaluations performed, determination made as to whether additional cross-disciplinary review required, and if required, performed

MSS Meeting No. N/A

Approval Authority (print/sign) Norman L. Hoefert / Norman L. Hoefert Date 8/15/02

## V – RELEASE FOR DISTRIBUTION

☒ NA ☐ YES Pre-implementation requirements complete (e.g , training/briefings, affected documents, word processing, etc.).

☒ Specific effective date not required. Issue per Document Control schedule.

☐ Required effective date: _____ (Coordinate date with Document Control)

Document Owner/Designee (print/sign) Michael Rosseau Michael Rosseau Date 8/15/02

Effective Date (to be entered by Document Control) AUG 19 2002

AUG 19 2003

Point Beach Nuclear Plant
DOCUMENT REVIEW AND APPROVAL CONTINUATION



Doc Number PBF-1584 Revision 10 Unit PB0

Title DESIGN INPUT CHECKLIST

Temporary Change Number N/A

**Description of Changes:**

| Step * | Change/Reason |
|---|---|
| A.6 | Add "(Contact EPIX coordinator)". Editorial |
| A.10 | Delete "Failure analysis is only required for maintenance rule sytems." This gets addressed for all mods. |
| A.10.b | Add "(Consider both equipment and human induced failures)". Reference CA003703. |
| A.11.a & b | Combine questions for efficiency. |
| C.17 | Delete reference to DG-E06 which has been cancelled and add "Contact EDA group for guidance". |
| F.5.e & f | Change Rem to rem. Editorial. |
| End of F.5 | Delete NP 4.2.3 ALARA Review Procedure and add NP 4.2.1 Plant ALARA Program. Editorial. |
| F.6.d | Add "control room habitability" and reference OE 11400, RG 1.78 and NP 3.1.6. Reference CA001796. |
| G.13 | Add a new question "Require that equipment be grounded?" Reference OE 12765. |
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**Other Comments**

* Note: Recording of Step Number(s) is not required for multiple occurrences of identical information or when not beneficial to reviewers

Point Beach Nuclear Plant

# 10 CFR 50.59/72.48 APPLICABILITY FORM



Brief Activity Title or Description: **Revise PBF-1584 Design Input Checklist.**

This form is required to be completed and attached to the applicable activity change forms to document all or portions of an activity that are covered by another regulation other than 10 CFR 50.59 and 10 CFR 72.48 (pre-screening criteria 2). See NP 5.1.8, 10 CFR 50.59/72.48 Applicability, Screening and Evaluation (New Rule).

**NOTE: Guidance for searching the FSAR, Technical Specifications, Regulatory Commitments (CLB Commitment Database) and other licensing basis documents can be found in NP 5.1.8, Attachment G.**

**NOTE: Although 10 CFR 50.59 and 72.48 may not be applicable to the processes listed below, change activities conducted under these processes may require changes to the FSAR. If so, initiate FSAR changes per NP 5.2.6, FSAR Revisions.**

| | Regulatory or Plant Process | YES | NO |
|---|---|---|---|
| 1. | Does the activity require a change to the Facility Operating License, License Conditions or Technical Specifications? (If the answer is YES, process the applicable changes per NP 5.2.7, License Amendment Request Preparation, Review and Approval.) | ☐ | ☒ |
| 2. | **NOTE: The Quality Assurance Plan is described in FSAR Section 1.4.** Does the activity require a change to the Quality Assurance Program? If the answer is YES, process the applicable changes per NP 11.1.3, QA Program Revisions. | ☐ | ☒ |
| 3. | **NOTE: Implementation of Security Plan changes that require physical changes to the plant, or changes to operator access to the plant require a screening.** **NOTE: Security is described in FSAR Section 12.7.** Does the activity require a change to the PBNP Security Plan, a safeguards contingency plan, or security training and qualification plan? If the answer is YES, assess the acceptability of the change per 10 CFR 50.54(p) using Security procedures. | ☐ | ☒ |
| 4. | **NOTE: The Emergency Plan is described in FSAR Section 12.6.** Does the activity require a change to the Emergency Plan? If the answer is YES, process the applicable changes per NP 1.8.1, Emergency Preparedness Procedures. | ☐ | ☒ |
| 5. | **NOTE: The Radiation Protection Program is described in FSAR Section 11.4.** Does the activity require a change to the PBNP Radiation Protection Program described in NP 4.2.9, Radiation Protection, OR is the activity within the scope of NP 4.2.9 and 10 CFR 20, Standards for Protection Against Radiation? | ☐ | ☒ |
| 6. | **NOTE: Changes to the plant or method of evaluation that result in re-analysis of the FSAR loss-of-coolant accident (LOCA) analysis require a screening.** Does the activity require a change to the FSAR LOCA analysis results subject to 10 CFR 50.46, Acceptance Criteria for Emergency Core Cooling Systems for Light-Water Nuclear Power Reactors? If the answer is YES, process the applicable changes per NP 5.2.12, 10 CFR 50.46 Reporting Requirements, and NP 5.2.6 FSAR Revisions. | ☐ | ☒ |
| 7. | **NOTE: Regulatory commitments are found in the CLB Commitment Database.** Does the activity involve a change to a Regulatory Commitment ? If the answer is YES, process the applicable changes per NP 5.1.7, Regulatory Commitment Changes. | ☐ | ☒ |
| 8. | Does the activity involve a change to the Environmental Manual (EM), Radiological Effluent Control Program Manual (RECM), Offsite Dose Calculation Manual (ODCM), or Process Control Program (PCP), AND does NOT involve changes in use of explosive gases in waste treatment systems? If the answer is YES, document the applicable changes per the requirements of TS 15.7.8.7.B {ITS 5.5.1}. | ☐ | ☒ |

Point Beach Nuclear Plant

# 10 CFR 50.59/72.48 APPLICABILITY FORM



| Regulatory or Plant Process | YES | NO |
|---|---|---|
| **NOTE: For purposes of determining 10 CFR 50.59 / 72.48 applicability, the determination of an administrative procedure below takes precedence over definitions or classifications in other plant procedures or guidelines.** | | |
| 9. Does the activity require a change to an administrative procedure or controlled document ONLY?<br><br>ALL of the following statements shall be true for the procedure or controlled document to be considered administrative.<br><br>a. DOES NOT direct how plant structures, systems, or components are operated, maintained, tested or repaired either specifically OR generically.<br><br>b. DOES NOT specify acceptance criteria or operating limits for plant structures, systems, or components.<br><br>c. DOES NOT specify parts, materials, chemicals, lubricants, etc. to be used in plant structures, systems, or components.<br><br>d. DOES NOT specify compensatory action(s) to address plant structures, systems, or components out of service, or to address non-conforming conditions.<br><br>e. DOES NOT affect operator access to operating areas of the plant. | ☒ | ☐ |

## 10 CFR 50.59/72.48 APPLICABILITY CONCLUSION

**NOTE: If ANY portion of the activity is NOT controlled by one or more of the processes above, further 10 CFR 50.59 / 72.48 review is required (i.e., portions not covered by the above processes shall be prescreened to other criteria or screened).**

| ALL aspects of the activity are controlled by one or more of the processes above, therefore NO additional 10 CFR 50.59 and 72.48 review is required. | YES | NO |
|---|---|---|
| | ☒ | ☐ |

If the above question is answered NO, briefly describe the portions of the activity NOT covered by one or more of the above processes:

N/A

| | | | |
|---|---|---|---|
| Performed By | Michael Rosseau | / [signature] | Date 08/12/2002 |
| | Name (Print) | Signature | |
| Reviewed By | Michael L. Miller | / [signature] | Date 8/12/02 |
| | Name (Print) | Signature | |

Point Beach Nuclear Plant

# DESIGN INPUT CHECKLIST

fication or Temporary Modification Number: _____

Title: _____

INSTRUCTIONS: Consider the basic functions of each structure, system, and component, (SSC), when answering the questions. The designer shall check the appropriate box for each design input or section. All inputs that apply to the design shall be explained. The explanation may be documented on this checklist or in the design summary. The reviewer shall review the checklist, and any differences between the designer and the reviewer should be addressed. This checklist addresses most design concerns, but is not all encompassing. Any additional concerns should be addressed in the design summary.

(Updates to this form covered by SCR 97-411.)

| | APPLIES TO DESIGN | |
|---|---|---|
| | YES | NO |
| **A. General codes, standards, regulatory requirements, and design criteria.** | | |
| 1. Are any of the PBNP FSAR general design criteria applicable? (Reference FSAR, Section 1.3. Identify and address design criteria as appropriate.) | ☐ | ☐ |
| 2. Are any design requirements contained in commitments affected? (Reference CLB database and the Safety Evaluation/Screening associated with this change.) | ☐ | ☐ |
| 3. Meet State of Wisconsin Administrative Code requirements? (Refer to ILHR 41.42, PSC 114, and other sections as appropriate for requirements.) | ☐ | ☐ |
| 4. Meet existing DNR permits or require DNR approval? (Contact WE Environmental Department.) | ☐ | ☐ |
| 5. Consider the effect of design and accident conditions, such as pressure, temperature, fluid chemistry, and radiation on components, including internal elastomers and material coating compatibility. (Changes in design parameters may impact Environmental Qualification.) | ☐ | ☐ |
| 6. Incorporate new types/models of equipment not presently used at PBNP? (Contact EPIX coordinator.) | ☐ | ☐ |
| 7. Affect accessibility of any equipment? Consider interim conditions, future maintenance, and in-service inspection. (Reference CIMs and drawings for manufacturer's clearance requirements.) | ☐ | ☐ |
| 8. Require breaching a High Energy Line Break (HELB) barrier? (Reference NP 8.4.16) If yes, EQ engineer review required. | ☐ | ☐ |
| 9. Consider operating experience from PBNP and industry events. (Reference DG-G04 for operating experience reviews and NPRDS, NODIL, CHAMPS, INPO Keywords, or other databases.) | ☐ | ☐ |

## DESIGN INPUT CHECKLIST

| | APPLIES TO DESIGN YES | NO |
|---|---|---|
| 10. Consider failure effects on structures, systems, and components: (Contact the NSA-PSA group for guidance and scope). | | ☐ |
| a. The design discusses those events/accidents which the system/components are to withstand? | ☐ | ☐ |
| b. The failure effect of the system/components: (Reference the NSA-PSA Group, Operating Experience, & IEEE-352-1975.)<br>• How components may fail, and the effect of the failure on the system and related systems?<br>• What mechanisms might produce failures? (Consider both equipment and human induced failures.)<br>• How a failure would be detected?<br>• What provisions are included to compensate for the failure? | ☐ | ☐ |
| 11. Does the design add or remove components in containment? | | ☐ |
| a. Change the amount of exposed aluminum or zinc in containment? (Reference DG-G07 and FSAR Section 5.6.) | ☐ | ☐ |
| b. Introduce materials into containment that could affect sump performance or lead to equipment degradation? (Reference DG-G07.) | ☐ | ☐ |
| c. Decrease free volume of containment? | ☐ | ☐ |
| d. Require addition or modification of a containment penetration boundary? (Consult the containment system engineer.) | ☐ | ☐ |
| e. Require painting in containment? (Reference MI 36.3.) | ☐ | ☐ |
| 12. Consider potential for fuel failure? | | ☐ |
| a. Affect fuel handling equipment? | ☐ | ☐ |
| b. Present the potential for introducing foreign material/debris into the RCS or connected systems? | ☐ | ☐ |
| c. Affect core barrel flow patterns? ("Baffle jetting" concerns) | ☐ | ☐ |
| 13. Meet requirements to abandon equipment if applicable. (Reference NP 7.1.5) | ☐ | ☐ |

# DESIGN INPUT CHECKLIST

| | APPLIES TO DESIGN | |
|---|---|---|
| | YES | NO |
| **Mechanical requirements. (Contact Mechanical Design Engineering for guidance.)** | | |
| 1. Have applicable ASME Boiler & Pressure Vessel codes or other standards been identified? (Reference the applicable specification. In addition, safety-related components should be reconciled with DG-M16, and QA components should be reconciled with ANSI N45.2.) | ☐ | ☐ |
| 2. Affect or add components/systems to ASME Section XI class 1, 2, or 3 equipment? (Reference PBNP CHAMPS, CBD drawings, and IST Coordinator. If YES, follow NP 7.2.5, Repair/Replacement Program.) | ☐ | ☐ |
| 3. Require State of Wisconsin Administrative Code permits/approvals? (Reference NP 7.4.9, Wisconsin Administrative Code for Boilers and Pressure Vessels or the Authorized Inspector.) | ☐ | ☐ |
| 4. Consider component performance requirements such as capacity, rating, output? | ☐ | ☐ |
| 5. Consider hydraulic requirements such as pump net positive suction heads, allowable pressure drops, allowable fluid velocities and pressures, valve trim requirements, packing/seal requirements? | ☐ | ☐ |
| 6. Provide vents, drains, and sample points to accommodate operational, maintenance and testing needs? | ☐ | ☐ |
| 7. Require service water? (Both essential and nonessential service water loads are modeled, and load changes must be evaluated. Contact the SWAP Coordinator.) | ☐ | ☐ |
| 8. Require the addition of check valves? (Reference DG-M13 for selection guidance.) | ☐ | ☐ |
| 9. Require and evaluate any additional loading on instrument or service air, circ, fire protection, or demineralized water, or other system? | ☐ | ☐ |
| 10. Evaluate any additional loading on HVAC systems or affect ventilation flow during or after installation? (This will require an EQ review for potential updates to EQSS, EQML & EQMR.) | ☐ | ☐ |
| 11. Affect ventilation barriers, including containment, primary auxiliary building, or control room? | ☐ | ☐ |
| 12. Require insulation? (Reference WE specification PB-485 for insulation, and NP 1.9.10 for asbestos control.) | ☐ | ☐ |
| 13. Require lubrication? (Reference Lubrication Manual.) | ☐ | ☐ |

## DESIGN INPUT CHECKLIST

| | APPLIES TO DESIGN YES | NO |
|---|---|---|
| 14. Require an independent means of pressure relief? (Reference B31.1.) | ☐ | ☐ |
| 15. Affect the assigned system design pressure or temperature? | ☐ | ☐ |
| 16. Involve cobalt-laden materials into the RCS or into systems that supply the RCS? (Reference NP 4.2.29, "Source Term Reduction Program.") | ☐ | ☐ |
| 17. Are new materials and their coatings/plating compatible with system chemistry and disposal systems (NP 8.4.15)? | ☐ | ☐ |
| 18. Affect embedded or buried piping? | ☐ | ☐ |
| **C. Electrical requirements. (Contact Electrical Design Engineering for guidance.)** | | |
| 1. Consider design conditions such as ampacity, voltage drop? | ☐ | ☐ |
| 2. Consider component and system performance requirements, such as current, voltage, or power? | ☐ | ☐ |
| 3. Consider redundancy, diversity and separation requirements of structures, systems and components? (Reference DG-E07 for separation of electrical circuits.) | ☐ | ☐ |
| 4. Comply with protective relaying requirements of equipment and systems? | ☐ | ☐ |
| 5. Selection of overcurrent devices for proper protection and coordination? (Reference DG-E04 for selection of molded case circuit breakers.) | ☐ | ☐ |
| 6. Affect available fault current at any bus? | ☐ | ☐ |
| 7. Assure that all added cables meet fire retardancy requirements? (Reference FPER Section 4.1.8, IEEE 383.) | ☐ | ☐ |
| 8. Be compatible with existing electrical insulation and wiring? | ☐ | ☐ |
| 9. Affect ampacity of existing cables? | ☐ | ☐ |
| 10. Maintain UL (or equivalent) listings? | ☐ | ☐ |

## DESIGN INPUT CHECKLIST

| | APPLIES TO DESIGN | |
|---|---|---|
| | YES | NO |
| 11. Alter the voltage harmonic distortion content or change the non-linear loading (i.e., the addition of switching power supplies, the alteration of the circuit's power factor, etc.) on a vital or sensitive instrument bus? | ☐ | ☐ |
| 12. Add new raceways? (Reference DG-E03 for electrical raceway sizing and DG-E02.) | ☐ | ☐ |
| 13. Add cables to existing electrical raceways? | ☐ | ☐ |
| 14. Be routed through fire wrapped raceways? | ☐ | ☐ |
| 15. Affect the station grounding or lightning protection system? | ☐ | ☐ |
| 16. Make any vital circuit susceptible to ground? | ☐ | ☐ |
| 17. Affect emergency diesel loading? (Contact Electrical Design Analysis group for guidance.) | ☐ | ☐ |
| 18. Add more station battery loading? | ☐ | ☐ |
| 19. Add load to a vital bus? | ☐ | ☐ |
| 20. Add load to a non-vital bus? | ☐ | ☐ |
| 21. Be compatible with service transformer capacity? | ☐ | ☐ |
| 22. Consider electromagnetic interference between new/existing equipment and electromagnetic coupling interactions between circuits? | ☐ | ☐ |
| 23. Affect embedded conduits or buried cables, including the station grounding system? | ☐ | ☐ |

## DESIGN INPUT CHECKLIST

| | APPLIES TO DESIGN | |
|---|---|---|
| | YES | NO |
| **Instrumentation and control requirements. (Contact I&C Design Engineering for guidance.)** | | |
| 1. Consider design conditions such as pressure, temperature, fluid chemistry, amperage, voltage? | ☐ | ☐ |
| 2. Have the instruments been properly selected for the application? | ☐ | ☐ |
| 3. Have sufficient instruments for operators to monitor the process? | ☐ | ☐ |
| 4. Have appropriate instrument scales? | ☐ | ☐ |
| 5. Have the instruments, control switches, and indicating devices been appropriately located for human factors (both for operations and maintenance)? (Reference DG-G01.) | ☐ | ☐ |
| 6. Have alarms for off-normal conditions? | ☐ | ☐ |
| 7. Be capable of or require remote and/or local operation? | ☐ | ☐ |
| 8. Be capable of or require manual and/or automatic operation? | ☐ | ☐ |
| 9. Require calibration and maintenance requirements for the instruments to be specified? | ☐ | ☐ |
| 10. Have specified the instruments with proper range and accuracy? | ☐ | ☐ |
| 11. Address solid state vulnerability to RFI? | ☐ | ☐ |
| 12. Consider software and programming/programmable settings of digital or electronic equipment? | ☐ | ☐ |
| 13. Affect logic circuits or associated GL 96-01 review/required testing? Contact I&C System Engineering group. | ☐ | ☐ |

## DESIGN INPUT CHECKLIST

| | APPLIES TO DESIGN | |
|---|---|---|
| | YES | NO |
| **Structural requirements. (Contact Civil Design Engineering for guidance.)** | | |
| 1. Affect or scope seismically qualified equipment (Class 1 or 2) and therefore require a seismic qualification evaluation? (Reference NP 7.7.2, "Seismic Qualification of Equipment.") | ☐ | ☐ |
| 2. Affect seismic boundaries? | ☐ | ☐ |
| 3. Affect stress calculations of pipe? (Reference DG-M09.) | ☐ | ☐ |
| 4. Affect the loading or require changes to existing equipment foundations? | ☐ | ☐ |
| 5. Affect wall stress calculations for pressurized concrete cubicles or structures? | ☐ | ☐ |
| 6. Require analysis of non-seismic components placed over or adjacent to seismic components? | ☐ | ☐ |
| 7. Add items which span between two separate seismic areas/buildings? (The effect of the relative movement must be addressed.) | ☐ | ☐ |
| 8. Require clearance review for seismic movement or thermal expansion considerations? | ☐ | ☐ |
| 9. Require a floor or wall loading analysis? (Reference Bechtel C-dwgs.) | ☐ | ☐ |
| 10. Require the addition of new supports, hangers, or foundations or add weight to or between existing supports, hangers, embeds, or foundations during installation or post-installation? (Reference DG-M09 and DG-M10 for pipe support.) | ☐ | ☐ |
| 11. Add new or add load to seismically qualified raceways? (Reference NP 7.7.2, "Seismic Qualification of Equipment.") | ☐ | ☐ |
| 12. Modify, attach to, or locate within the proximity of masonry block walls? (Reference IEB 80-11 Block Wall Program.) | ☐ | ☐ |
| 13. Require core drills, expansion anchors, or re-bar cuts? (Reference DG-C01 for expansion anchor design and installation.) | ☐ | ☐ |
| 14. Create an external or internal missile hazard? | ☐ | ☐ |
| 15. Consider wind and storm loading on external structures? | ☐ | ☐ |

## DESIGN INPUT CHECKLIST

| | APPLIES TO DESIGN YES | NO |
|---|---|---|
| .6. Require protection from high energy line break jet? (Refer to FSAR Appendix A.2.) | ☐ | ☐ |
| 17. Consider dynamic requirements such as live loading, vibration, and shock/impact? | ☐ | ☐ |

**F. Programs**

1. ASME Section XI and QA considerations:

| | | |
|---|---|---|
| a. Affect IST acceptance criteria or calculations? (Contact Component Engineering.) | ☐ | ☐ |
| b. Require classification of new components? (Reference DG-G06 for system, component, and part classification.) | ☐ | ☐ |
| c. Affect QA-scope systems or boundaries? (Contact Site Programs Engineering Support for Q-List.) | ☐ | ☐ |
| d. Require special personnel/equipment qualifications not proceduralized at PBNP (i.e., underwater welding)? | ☐ | ☐ |
| e. Require material certification or other certification to ensure quality equal to or better than the affected SSC? (These requirements need to be specified in the specification or purchase requisition.) | ☐ | ☐ |
| f. Have all design requirements, such as pressure or current rating, been reviewed against lot descriptions or been specified on purchase requisitions/specifications? | ☐ | ☐ |

2. Fire protection considerations:

| | | |
|---|---|---|
| a. Affect access to a fire zone, fire protection equipment or Appendix R safe shutdown equipment, including manual fire fighting activities? (Reference Section 5.2.1 of Design Guide DG-F01) | ☐ | ☐ |
| b. Affect a fire barrier? (Reference NP 8.4.11 and Fire Barrier Drawings WE PBC-218 Sheets 1-20, Section 5.2.2 of Design Guide DG-F01) | ☐ | ☐ |
| c. Affect a fire protection system or its performance? (Reference Section 5.2.3 of Design Guide DG-F01) | ☐ | ☐ |
| d. Increase or decrease permanent combustible loading in a room? (Reference Section 5 2.4 of Design Guide DG-F01) | ☐ | ☐ |

## DESIGN INPUT CHECKLIST

| | | APPLIES TO DESIGN YES | APPLIES TO DESIGN NO |
|---|---|---|---|
| e. | Based on Section 2 and Appendix A of the SSAR, will the change add to, delete from, or affect the performance of safe shutdown systems or equipment? (Reference Section 5.2.5.1 of Design Guide DG-F01) | ☐ | ☐ |
| f. | Based on Sections 3, 4, and Appendix C of the SSAR, will the change affect a cable associated with safe shutdown equipment, a safe shutdown power supply, or the physical location of a safe shutdown cable? (Reference Section 5.2.5.2 of Design Guide DG-F01) | ☐ | ☐ |
| g. | Based on Table 1-1, Section 5 and Appendix D of the SSAR, will the change affect fire area analysis and compliance with Appendix R separation criteria or the conditions of an approved Appendix R exemption for any PBNP Fire Area? (Reference Section 5.2.5.3 of Design Guide DG-F01, Table 3.2-2 of DBD T-40) | ☐ | ☐ |
| h. | Will the change add, remove, or affect the performance of any emergency lighting required for compliance with Section III.J of Appendix R? (Reference Section 5.2.6 of Design Guide DG-F01) | ☐ | ☐ |
| i. | Will the change add, remove, or affect the performance of any plant communications system relied upon for fire fighting or safe plant shutdown? (Reference Section 5.2.7 of Design Guide DG-F01) | ☐ | ☐ |
| j. | Will the change affect the Reactor Coolant Pump Oil Collection System? (Reference Section 5.2.8 of Design Guide DG-F01) | ☐ | ☐ |
| k. | Will the change affect the Fire Protection Manual? | ☐ | ☐ |
| l. | Will the change affect any of the Supporting Documents listed in the SSAR (Section 6.0) or the FHAR (Section 4.0)? | ☐ | ☐ |

If any of the questions a through j are answered "yes", an evaluation must be performed using the applicable sections of the FPCC checklist, PBF-2060 per Section 5 of Design Guide DG-F01.

3. Flooding protection considerations:

A flooding analysis should be performed if any of the following questions are applicable and answered yes. (Reference Section 4.3 of DG-C02.)

| | | | |
|---|---|---|---|
| a. | Modify potential flooding sources or add new potential flooding sources to a flood zone and thereby increase the direct and/or indirect flooding vulnerability of essential equipment? | ☐ | ☐ |
| b. | Degrade existing flood barriers or flood mitigation features providing unanalyzed pathway for flooding to propagate? (Reference Section 3.2 of DG-C02.) | ☐ | ☐ |

## DESIGN INPUT CHECKLIST

| | | APPLIES TO DESIGN YES | NO |
|---|---|---|---|
| c. | Involve the opening of potential flood sources anywhere at the station? (Installation procedures need to address inadvertent flooding. Reference DG-C02, Section 4.4.) | ☐ | ☐ |
| d. | Reduce the capacity to isolate or cope with flooding? (Reference Sect. 4.2 of DG-C02.) | ☐ | ☐ |
| e. | Change plant drainage/backfill requirements? | ☐ | ☐ |
| f. | Locate essential equipment or supporting systems where it would be susceptible to flooding? (Flooding conditions may also impact Environmental Qualification.) | ☐ | ☐ |
| 4. | Environmental considerations: | | |
| a. | Be subject to adverse environmental conditions during storage or construction? (Reference NP 9.5.2.) | ☐ | ☐ |
| b. | Require freeze protection or affect existing freeze protection? | ☐ | ☐ |
| c. | Locate safety-related or post accident monitoring equipment in a HARSH environment? (Reference NP 7.7.1.) | ☐ | ☐ |
| d. | Require Environmental Qualification (EQ)? (Reference NP 7.7.1 for EQ qualification.) | ☐ | ☐ |
| e. | Be attached to an EQ system/component? (This will require an EQ review for potential updates to EQSS, EQML & EQMR. Reference EQ master list.) | ☐ | ☐ |
| f. | Change environmental parameters (e.g., pressure, temperature, radiation, humidity)? (Reference NP 7.7.1, "Environmental Qualification of Electrical Equipment." | ☐ | ☐ |
| 5. | Radiation Protection (RP) and ALARA considerations: (Reference DG-G03, "ALARA Consideration Guideline for Design & Installation.) | | |
| | The areas mentioned below are normally within the RCA, but radiological concerns should be considered for SSC outside the RCA also. | | |
| a. | Affect any SSC in an RWP required area, a contaminated area, or a radiation area, including opening of a system that may be a radiological concern? | ☐ | ☐ |
| b. | Will the change generate excessive radwaste or highly radioactive/contaminated waste? | ☐ | ☐ |
| c. | Remove any plant equipment from a potentially contaminated system (including BOP systems)? | ☐ | ☐ |

| | | APPLIES TO DESIGN YES | NO |
|---|---|---|---|
| d. | Result in an anticipated increase in operational or maintenance exposures? (Consider equipment rearrangement to reduce plant life dose?) | ☐ | ☐ |
| e. | Result in an expected exposure of greater than 1 rem for any individual during installation of the change? | ☐ | ☐ |
| f. | Result in an anticipated collective exposure of greater than 2 rem for the installation of the change? | ☐ | ☐ |

If questions d, e, or f apply and are answered yes, then an ALARA review shall be performed. (Reference NP 4.2.1, Plant ALARA Program.)

6. Chemistry considerations:

| | | | |
|---|---|---|---|
| a. | Require or affect established chemistry limits? (Contact system engineer and review chemistry procedures.) | ☐ | ☐ |
| b. | Require any routine chemical analyses? (Contact system engineer and review chemistry procedures.) | ☐ | ☐ |
| c. | Require chemical additives? (Contact PBNP Chemistry.) | ☐ | ☐ |
| d. | Do new fluids/chemicals need to be evaluated for TRI (Toxic Release Inventory), Control Room habitability, CHES, critical applications, or special disposal requirements? (Contact Chemistry/Chemical Engineering.) Reference OE 11400, RG 1.78 and NP 3.1.6. | ☐ | ☐ |

G. Installations

| | | | |
|---|---|---|---|
| 1. | Installation requirements/plant conditions have been determined? | ☐ | ☐ |
| 2. | Consider test and inspection requirements, including the conditions under which they will be performed? (Reference NP 7.4.1 for pressure test requirements, NP 7.4.3 for post-maintenance and modification NDE requirements, NP 1.2.5 for special test procedures, and OM 4.2.2 for in-service tests.) | ☐ | ☐ |
| 3. | Have post-installation acceptance criteria been properly specified to test the intended function of the component(s)/system? | ☐ | ☐ |
| 4. | Comply with all WE lifting and rigging requirements? (Reference WE Safety Manual, PBNP Safe Load Path procedures, and NP 8.4.7.) | ☐ | ☐ |
| 5 | Consider ALARA for installation activities? (i.e., shielding, monitoring water level, etc.) | ☐ | ☐ |

## DESIGN INPUT CHECKLIST

| | APPLIES TO DESIGN YES | NO |
|---|---|---|
| 6. Require special handling, shipping, or environmental conditions for storage or construction? (Reference NP 9.5.2 for material storage.) | ☐ | ☐ |
| 7. Consider transportability requirements such as size and shipping weight limitations. | ☐ | ☐ |
| 8. Require spare parts or special non-standard items or tools? | ☐ | ☐ |
| 9. Will any added components introduce chemical contaminants to the system? (i.e., preservative coating on valves, coatings on weld rod can also introduce contaminants) | ☐ | ☐ |
| 10. Consider personnel requirements and limitations, including the qualification and number of personnel available for plant operation, maintenance, testing and inspection, and permissible personnel radiation exposures? | ☐ | ☐ |
| 11. Operational requirements under various conditions, such as plant startup, normal plant shutdown, plant emergency operation, special or infrequent operation, and system abnormal or emergency operation. | | |
| a. Require new procedures or procedure changes? (Reference NP 1.2.5.) | ☐ | ☐ |
| b. Potentially impact other systems, components, or structures during installation? | ☐ | ☐ |
| c. Present installation impacts on plant operations (i.e., fire watches, etc.)? | ☐ | ☐ |
| 12. Access and administrative requirements for plant security: If any security requirements are applicable, notify Security. | | |
| a. Create an opening >96 $in.^2$ in any wall, ceiling, or other barrier? | ☐ | ☐ |
| b. Require work within 20' of fence? | ☐ | ☐ |
| c. Affect security equipment and documents, including those containing safeguards information? (Contact Security for design development requirements and design concurrence.) | ☐ | ☐ |
| d. Affect access controls? | ☐ | ☐ |
| 13. Safety requirements: | | |
| a. Affect safety equipment and thereby create personnel hazards (i e., removal of handrails)? | ☐ | ☐ |
| b. Introduce hazardous material into the plant? (Reference NP 1.9.1 ) | ☐ | ☐ |

## DESIGN INPUT CHECKLIST

| | | APPLIES TO DESIGN | |
|---|---|---|---|
| | | YES | NO |
| c. | Affect evacuation routes or escape provisions from enclosures? | ☐ | ☐ |
| d. | Meet OSHA regulations? (Reference Wisc. Electric Safety Manual and OSHA 29 CFR 1910.) | ☐ | ☐ |
| e. | Move any energy sources? If yes, verify installation document covers move, including transferring danger tags. | ☐ | ☐ |
| f. | Require that equipment be grounded? | ☐ | ☐ |

Designed by: _____ Date: _____

Reviewed by: _____ Date: _____